Jivoule Biofuels Pvt Ltd

Fertilizing the planet with plant fuels to reduce carbon emissions by 80%

Recognition

- Selected for Niti-Aayog Grant of 1 Cr
- Selected for grant of 20 lakhs and incubation with IIT-Kanpur
- Top 30 startup for the MoHUA-AFD Swachhata Challenge 2022
- Shortlisted for final round of startup grand challenge 2022 for organic waste management by Ministry of Drinking water & Sanitation
- Finalists of Zero Food Waste program of Social Alpha
- Finalists of FLCTD Cohort3 by UNIDO, AIC-Sangam & AGNII
- Incubated at T-Hub and AIC-IIITH
- Received a grant from AIC-IIITH

Advancing Biofuels as a scalable solution

Next Gen renewable solutions for future

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giz
Veg waste

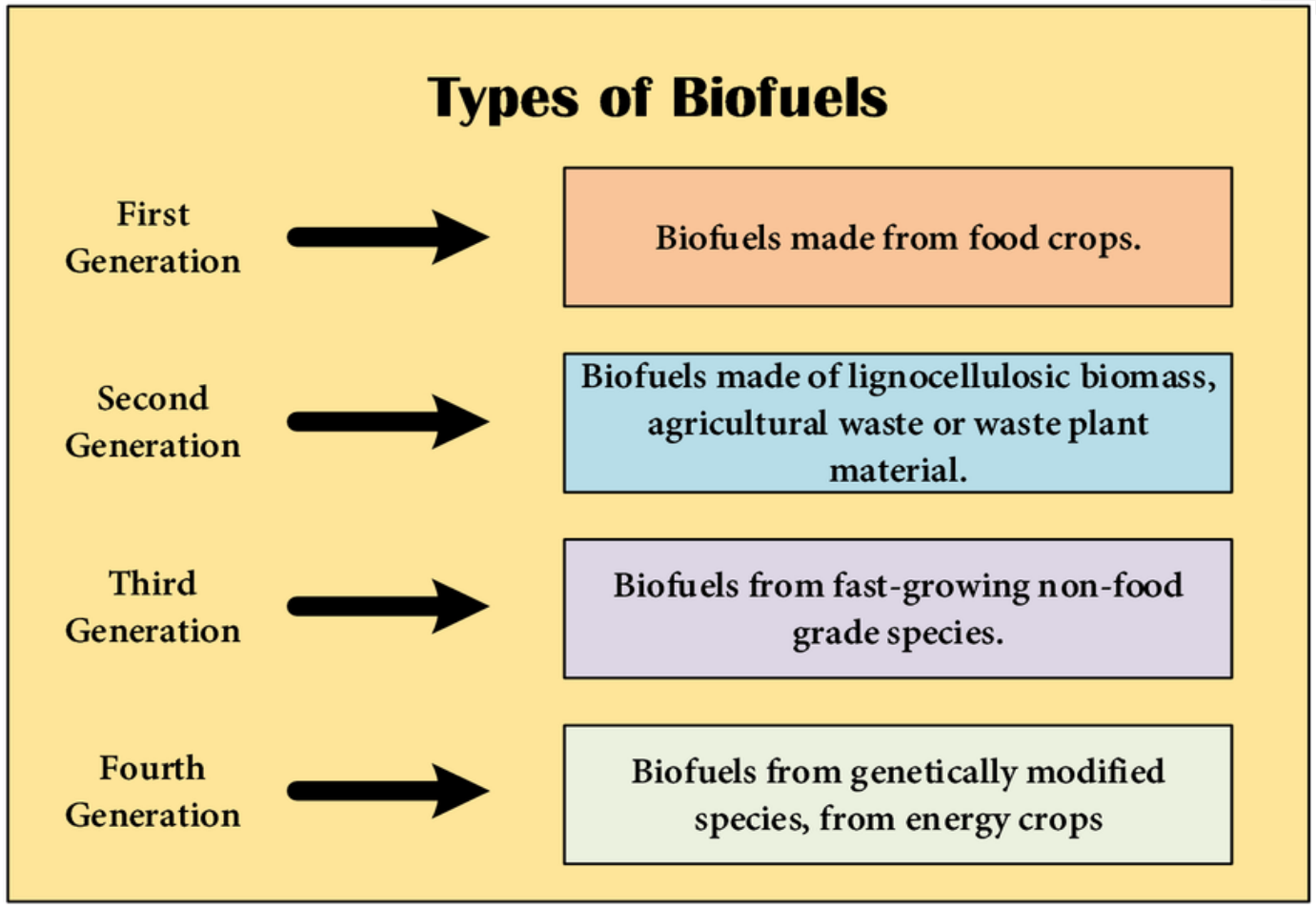

MSW wet waste


Agri
residues


Stubble

Biofuels types

Biofuel- A fuel derived from renewable organic matter like plants, vegetables, waste, algae etc. to replace fossil fuels and help to reduce carbon emissions and achieve net zero.



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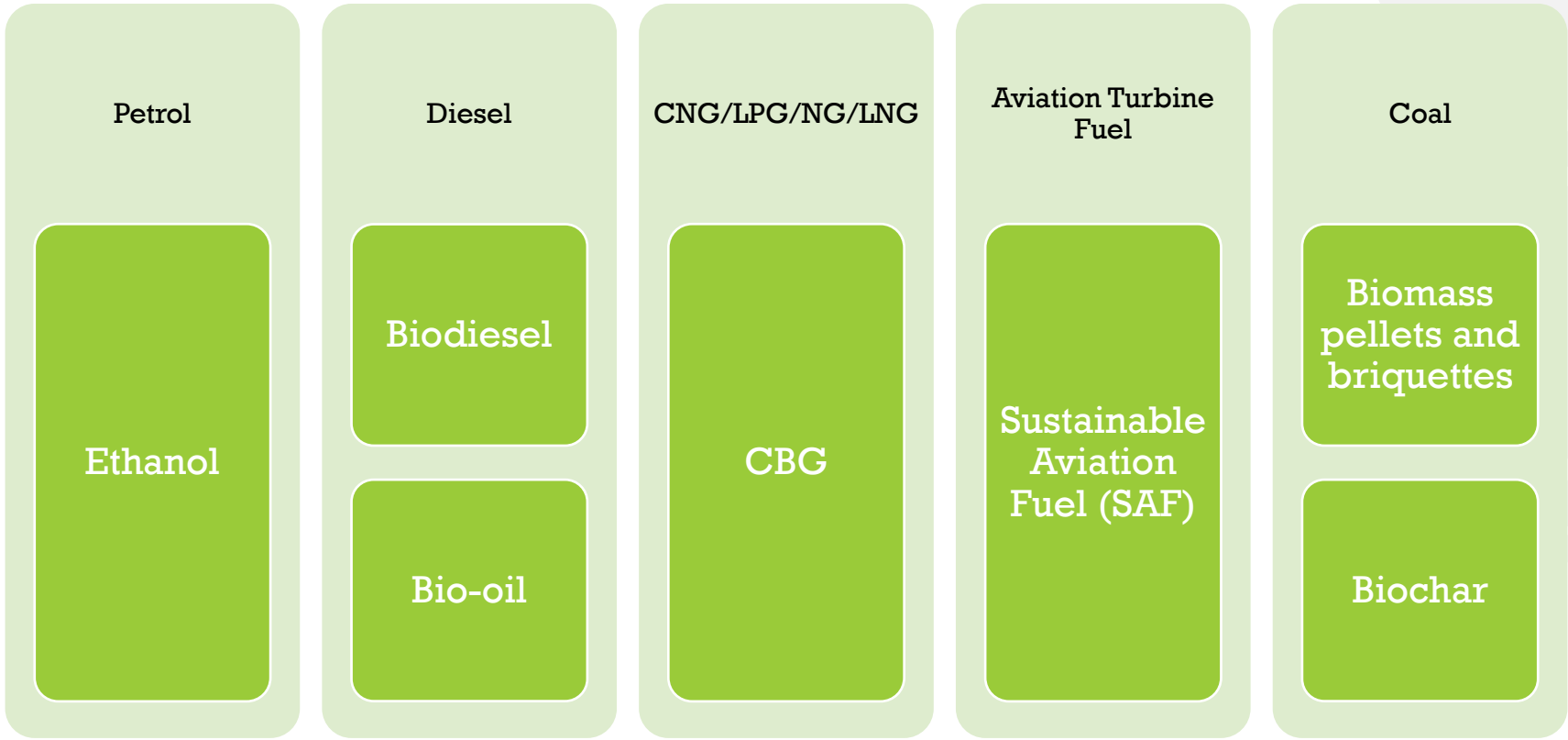
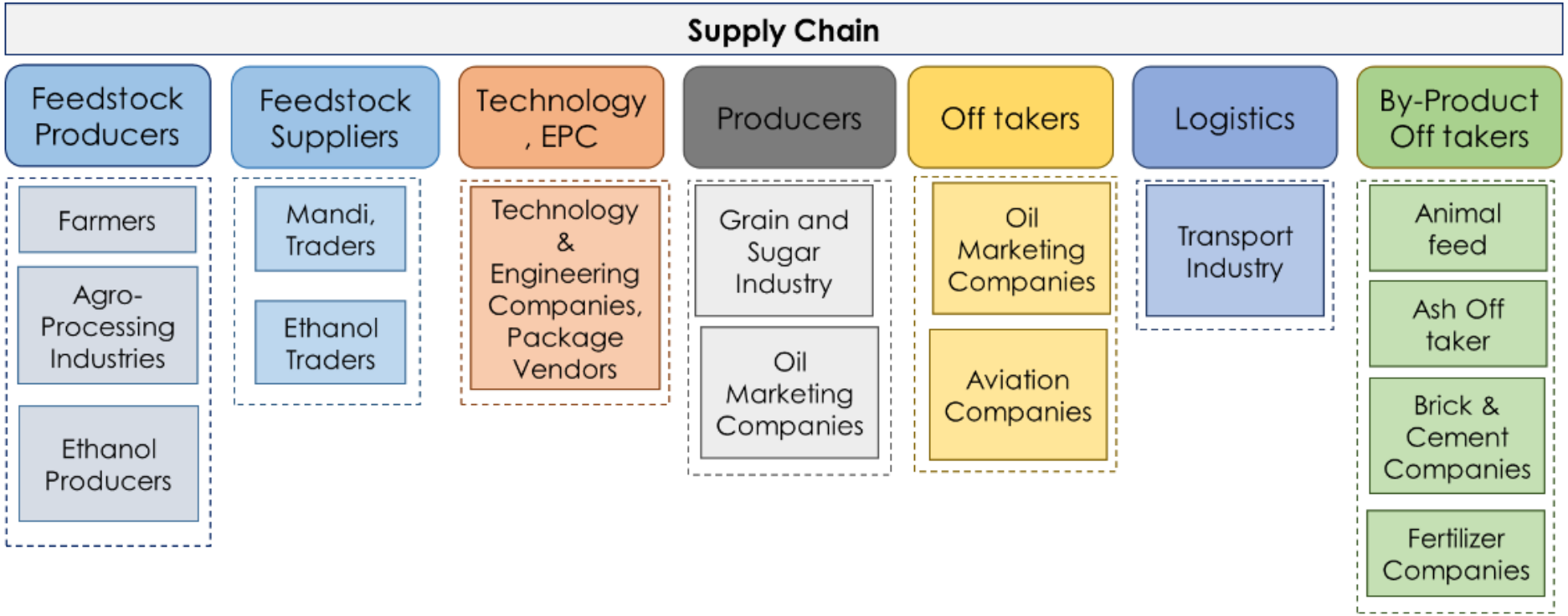
Fossil fuels & Biofuels



Biofuels Supply Chain



Advantages

- Reduction of estimated 150 million tons of C02 equivalent emissions annually by 2030
- Utilize organic waste and agricultural residues that are abundant in India towards biofuel production this creating " Wealth from Waste" and promoting circular economy
- Empower rural economies with new revenue streams
- Replace imported fossil fuels with indigenous produced Biofuels and save huge forex amounts and improve energy security
- Meet growing forecasted energy demand of India i.e. 3% annually until 2040 with Biofuels and build inclusive economic growth
- Bolster domestic production of renewable fuels and foster innovations across energy sector
- Huge green jobs creation is possible with growth of Biofuels
- Investments in sustainable energy and clean mobility to address air pollution in Indian cities and make sustainability a tangible reality

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Organic Waste disposal problem

62 Million MT of MSW

50% - food waste

Woody or biomass waste

$8.7 B Natural Gas import bill

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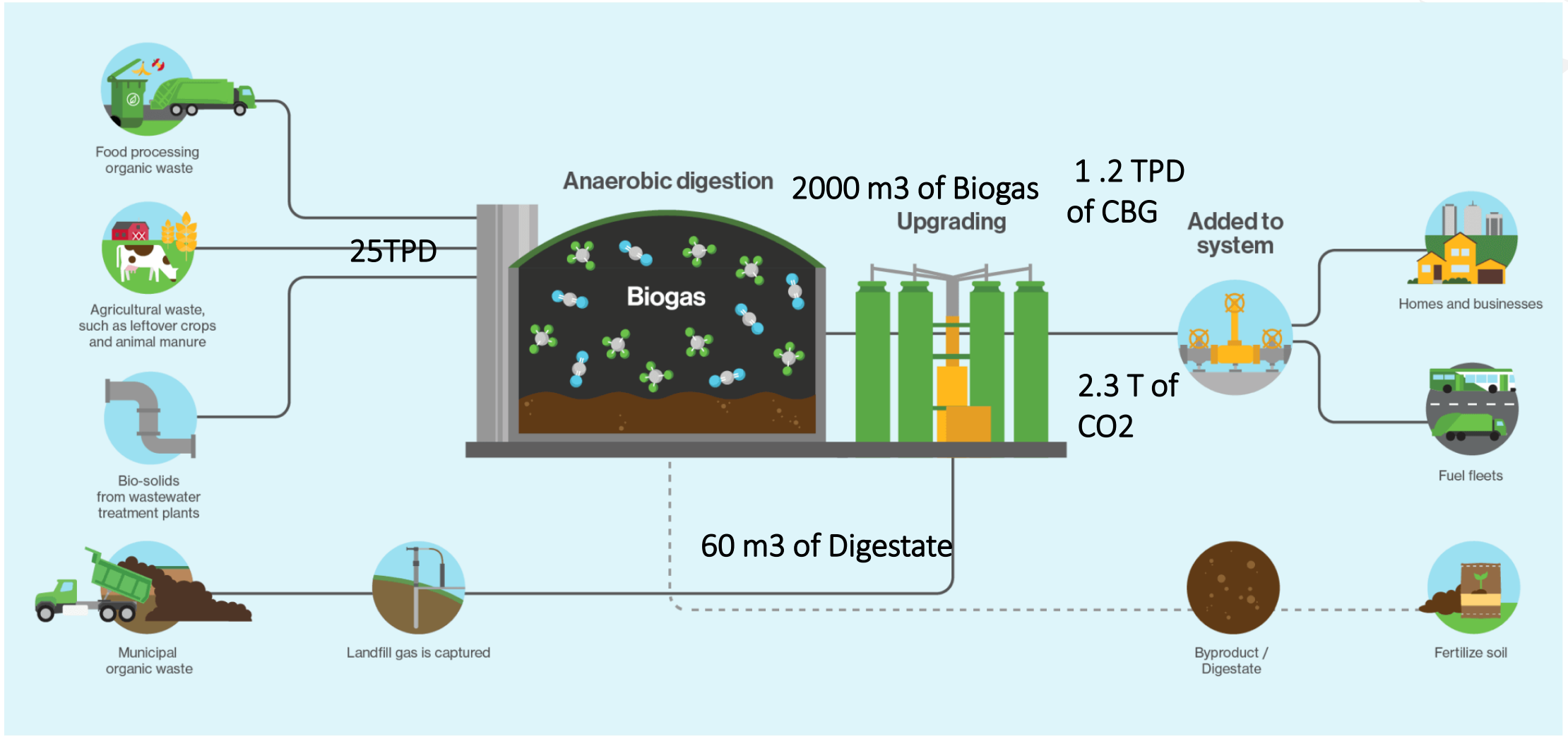
Multi-Feedstock CSTR Anaerobic Digestion Technology



Biochar Technology

Pyrolysis Reactor

Automated control unit

Biochar

- Consistent and Quality Biochar produced in controlled Pyrolysis reactor
- Optimum yields of Biochar
- Gas generated can be used for heating or cooling operations in-house
- Scalable, replicable and modular technology
- Zero emissions Commercially proven technology

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Biochar Pyrolysis reactor

- Continuous scale Pyrolysis reactor with fully automatic control system
- India's first indigenous design, fabrication and Technology
- Pilot done on debarked wood, rice husk and mustard pellets
- Huge potential for carbon sequestration and therefor carbon credits

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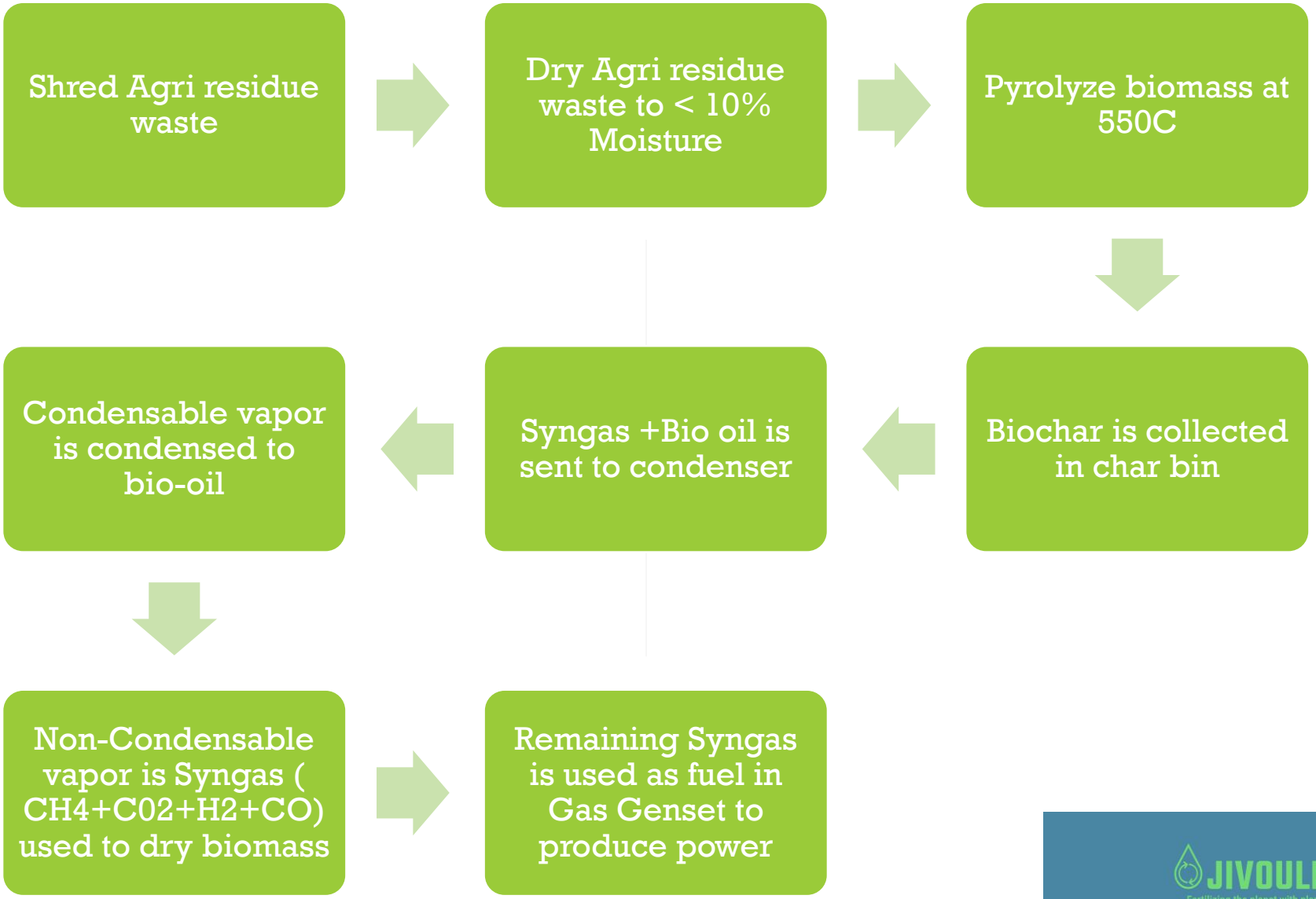
Biochar Schematic Diagram



Traction - Biomethane plant – Tirupur, TN

- 10 TPD processing plant diverting food & Veggie waste from landfills to biomethane plant
- Jivoule revived plant with our technical and process know-how
- 450 Tonnes of Co2 or GHG emissions are saved

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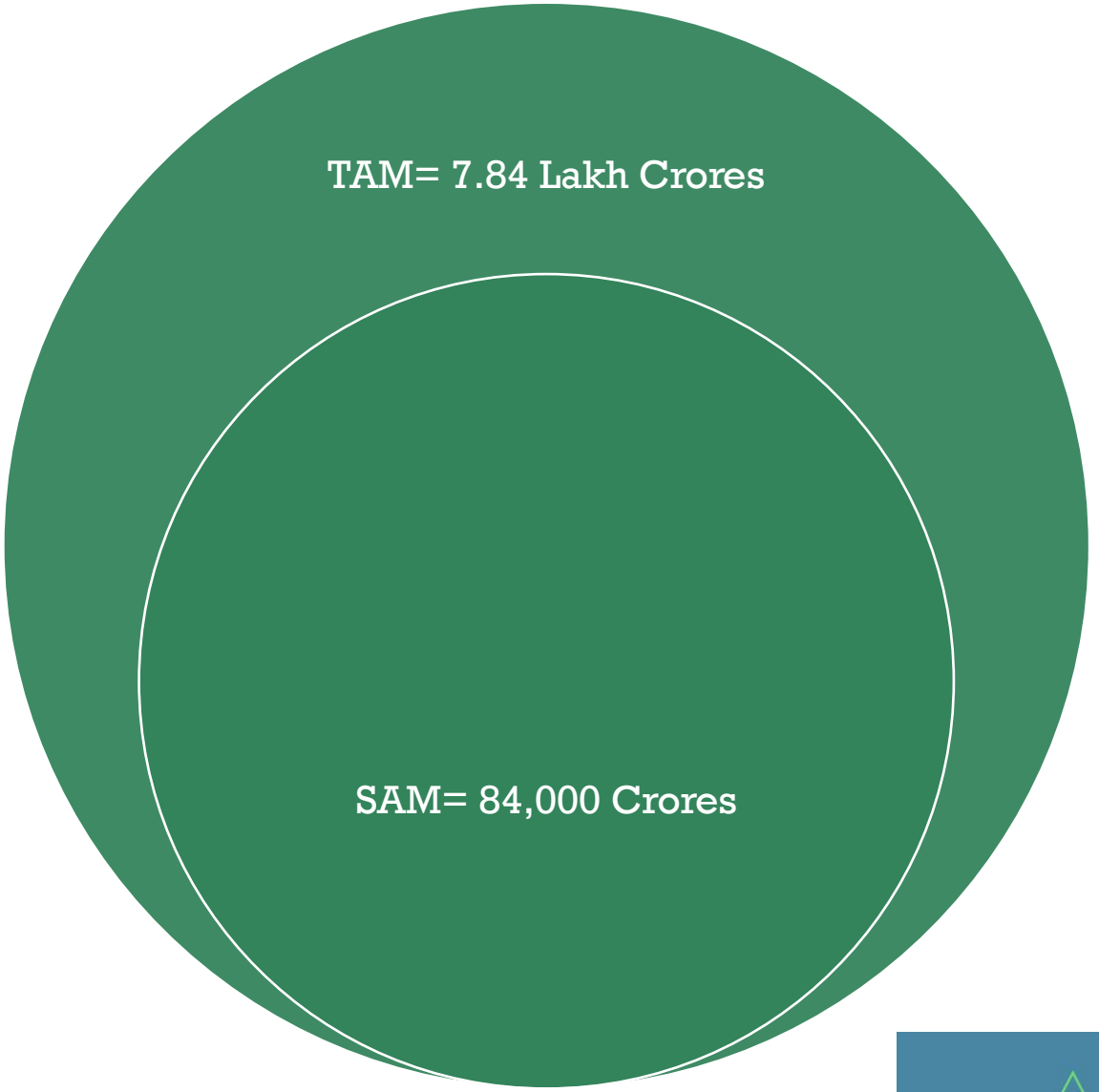
Market Potential



Source :

- TAM- 140 MMT of Natural Gas consumption in India
- SAM- GOI set target for CBG is 15 MMT as part of SATAT scheme
- GOI target 5000 plants in next few years in India
- Source : https://journalsofindia.com/sustainable-alternative-towards-affordable-transportationsatat-scheme/

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Business / Revenue Model

Jivoule Biofuels is a successful bidder to supply Compressed Biogas (CBG) to BGL which is GAIL &HPCL JV in Hyderabad which translates to **Rs 3.36 Crores**

Bhagyanagar Gas Ltd

- Sell CBG in Cascades to City Gas Distribution (BGL) at prescribed price at Rs. 67 per KG
- In a B2B sustainability –as- a –Service model,
  - Solution to handle biodegradable waste by transforming into biomethane
  - Help to adopt to biomethane which is alternative to coal, diesel and natural gas
- Scale to 21 plants in next 3 years to target Rs 122 Crores of revenue.

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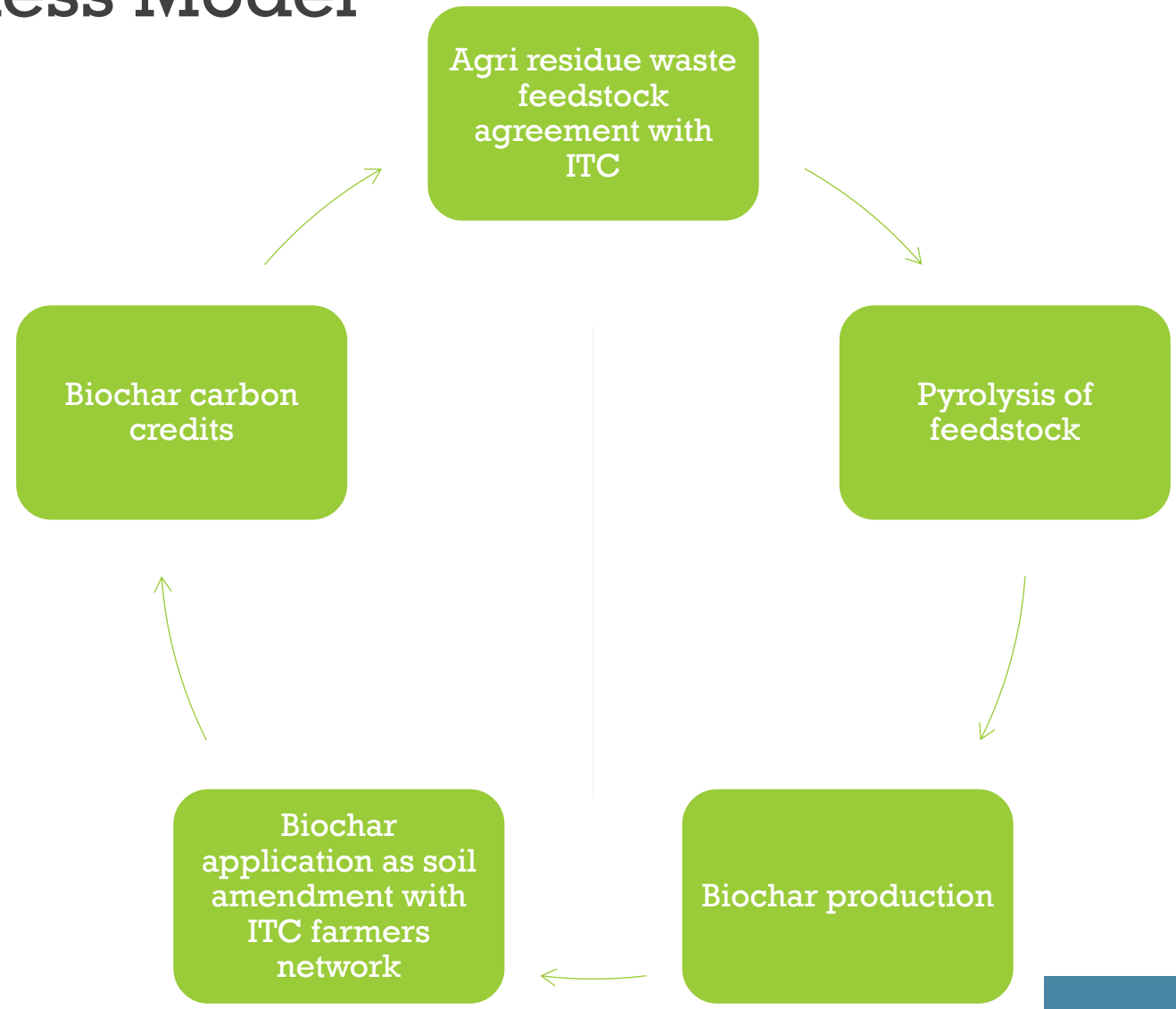
Biochar Business Model



Scalability of Biofuels

- Remove Bottlenecks
  - Interrupted Feedstock supply chain
  - Lack of Access to finance-Debt, PE etc.
  - Inter-ministerial coordination delays and issues
- Industry can adopt Biofuels to replace their current fossil fuel usage and to meet their Net Zero targets
- Carbon credits program to support Biofuels adoption
- Strengthening regulatory frameworks at central Govt level and ensuring consistent policy implementation across all states
- R&D to include more diverse feedstocks for Biofuels generation and Technology development
- OMC's more proactively procuring Biofuels like CBG, Bioethanol, Biochar and Biodiesel
- Marketing of byproducts like FOM

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Team

N Chandrasekhar

Founder, Director

M.S Chemical Engineering from USA

Six Sigma MBB and Lean Expert

Project Management certified

G Narayana Rao

Director-Projects

30+ years experience in W2E projects

Mechanical Engineer

CAPEX projects execution

Municipalities /ULB management

Supported by :

About Promoter

- Main promoter N Chandrasekhar had done M.S Chemical Engineering from University of Missouri-Rolla, USA a top tier University
- Worked in USA close to 6 years
- N Chandrasekhar has total of 21 years of work experience in Chemical Manufacturing, IT and Biofuel industries
- N Chandrasekhar is Six Sigma and Project Management certified
- Has proven skills and experience in process engineering, process improvements using Six Sigma methodologies and lean manufacturing
- TEDx speaker
- Speaker in many national and international conferences on Sustainability, Climate change, Renewable Energy, Biofuels etc.
- Thought leader, innovator, Technocrat, Entrepreneur, Problem Solver, Critical Thinker and Out-of-Box Leader

Thank You

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